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Perception of Safety in Gated and Non-Gated Neighborhoods

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Abstract

The perception of safety from criminal threats has become a critical aspect on the quality of human life. One of the indicators in identifying fear of crime is the perception of safety (POS) level. The objective of this study is to compare the POS in individual gated residential (IGR) and individual non-gated residential (INGR) areas. This study found that POS is higher in gated residential areas (M=0.90, SD=0.32) compared to IGR areas (M=0.57, SD=0.23). The results show that the rates of income, victimization, fields of employment and periods of residing in the residential areas were significant to the perception of safety.

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Keywords: Crime; perception of safety; built environment; gated and non-gated neighborhoods

1. Introduction

In countering the issue of crime in neighborhoods, safety is considered a fundamental need by residents. This fact has naturally led many researchers to conduct related research studies on crime prevention in neighborhoods. Weidemann and Anderson (1982) explored residents' perceptions of satisfaction and safety in multi-family housing. The research found that safety has come to be highlighted as a critical indicator measuring residential satisfaction in housing sites. Meanwhile, Blakely and Snyder (1997) brought forth more concrete crime prevention tactics for residential environments in urban areas. Blakely and Snyder (1997) suggested physical designs including increasing outdoor lighting, reducing blind spots, installing guard booths and surveillance cameras, creating territorial spaces, closing or gating streets, building fences and walls, improving appearance, and personalizing the environment could reduce

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fear of crime and increase the feeling of safety. Previous studies believe that gating elements have a profound influence on the need to feel safe and on fear of crime (Langdon, 1999; Newman, 1996; Serife, 2007, Siti Rasidah & Aldrin, 2011). However, previous studies were more focused on gated community in studying the relationship between perceptions of safety and gated gating elements (Blakey & Synder, 1998; Fowler & Mangione, 1986; Suk, 2006).

A study by Fowler & Mangione (1986), Blakey & Synder (1998), and Suk (2006) refer gated community as a physical space that is separated from its surrounding by fencing or walling and separated from another neighborhood (Blakey & Snyder, 1997). However, in Malaysia, typical residential developments comprise elements of gating at every individual lot while the concept of non-gated individual residential units is still seldom applied (Siti Rasidah, Aldrin & Mohd Najib, 2011). Furthermore, the development of gated community residential concept in Malaysia entails two elements of gating namely at every individual lot and also around the perimeter of the residential area which is coupled with a security guard post at the entrance to the residential area (Siti Rasidah, et al., 2011). Thus, this study focuses on gated and non-gated residential areas as proposed by Siti Rasidah, et al. (2011) because gated communities in Malaysia are targeted for higher-income earners, (JPBD, 2009) and the gated element is different from Blakely and Synder's (1997) concept. Therefore, the objective of this paper is to examine the perception of safety (POS) in gated and non-gated residential neighborhoods as per the above definition.

2. Literature review

The perception of safety from criminal threat is a critical aspect in achieving quality of life. This is in accordance with Maslow's hierarchy of needs which states that man needs to attain certain levels of needs to achieve satisfaction in life (Suk, 2006). Based on Maslow's hierarchy of needs, the aspect of safety is second most important after basic needs; followed by the needs for love, respect and self development (Suk, 2006). This hierarchy indicates that one will not attain life satisfaction if the absence of threats to safety is not guaranteed. The need to feel safe is also an indicator to measure fear of crime specifically on the residents' emotions (Kanan & Pruitt, 2002). Saarinen (1984) suggests that the need to feel safe differs from one individual to another as feelings depend on experience, attitude, actions, desire, memory, state of mind, particular situation and expectation. Cozens, et al. (2001) contend the need to feel safe is manifested as an assumption on social relationships and residents' behavior in an area based on a specific time either during the day or at night. Cozens et al. (2001) further elaborated that the need to feel safe is formed based on a 'mental map' towards a particular space. The formation of such a 'mental map' is based on ideas and assumptions on community relationships and residents' behavior within a space based on a specific time either during the day or at night (Cozens, et al., 2001). Hence, the measurement of the need to feel safe is often related to the question of individual feelings and opinion of their surroundings.

Demographic factors such as age groups (Austin, Furr, & Spine, 2002; Bell, 2009), education level (Austin, et al., 2002), social and economic factors (European Communities, 2004) believed to influence the perception of safety (POS). In addition to that, ownership status of the house (Clampet-Lundquist, 2010; Hipp, 2010), lifestyle (Hipp, 2010), culture and environment (European Communities, 2004) are also perceived to have effects on perception of safety. According to Bell (2009), individuals aged 18 to 24 have a higher need to feel safe. This was based on a study on parks in Edinburgh, Scotland, namely Leith Links and The Meadows. Bell (2009) found that these groups which are mostly made up of young women; have feelings of being unsafe especially at night. In fact, these groups were found to be more likely to lock their doors when they are home as compared to young men. Bell (2009) further reiterated that this behavior is believed to be influenced by darker surroundings at night due to dim lighting.

Additionally, these groups are more prone to witness criminal activities as they spend a lot of time in outdoor activities.

Meanwhile, Austin et al. (2002) found that there is a positive and significant relationship between educational level and POS. In other words, the higher a person's educational level is the higher is his need to feel safe. Hipp (2010), on the other hand contends that lifestyle is one of the factors influencing the need to feel safe and perception of crime. According to Hipp (2010), this is related to daily activities and environmental factors of the neighborhood that impact the perception that there exists the probability of one being the victim of crime.

Housing ownership status is one other factor that influences the need to feel safe. This is based on lifestyle differences between housing owners and housing tenants. Hipp (2010) postulates that housing owners spend more time outdoors compared to housing tenants. This enables housing owners to readily inculcate relationships with neighbors than are housing tenants (Hipp, 2010). Clampet-Lundquist (2010) suggests that lifestyle induces the perception of safety among residents. This is based on a study in the DuBois neighborhood which found that the lifestyle of unemployed residents has good social relationships in space sharing thus inducing feelings of safety among residents (Clampet-Lundquist, 2010).

2.1. Measuring the perception of safety

Most researchers (Farrall & Gadd, 2004; Kajalo & Lindblom, 2010; Tseloni & Zarafonitou, 2008) relate dark environments to measurement of perception of safety (POS). The relationship between POS and dark environments is perceived to be related to criminal threats. This is based on the British Crime Survey report in 1992 which found that extortion crime at public places usually occur between 8pm to midnight (Painter, 1996). Hence, Painter (1996) concluded that women, senior citizens and adult men frequently avoid going out at night for fear of being victims of criminal threats. Painter (1996) reiterated that visibility limited to a certain distance is one of the factors indicating darkness induces feelings of insecurity. Additionally, a few other studies demonstrate a consistent correlation between the perception of wanting to feel safe in dark environments and fear of crime (Nasar & Fisher, 1993; Schneider & Kitchen, 2007; Villarreal & Silva, 2006).

In the British Crime Survey, among the items used to measure feelings of wanting to feel safe are as follows (British Crime Survey, 2005): (a) feeling secure when out walking in the neighborhood at night; (b) frequency of nocturnal outings within a particular period; (c) feeling secure when out during the day; and (d) feeling secure being home alone at night. These items are used by various researchers such as Aldrin (1999), Farrall and Gadd (2004), Hedayati (2009); and Syarmilla Hany (2008) to measure the need to feel safe in neighborhoods. Thus, it can be concluded that the need to feel safe refers to criminal threats especially when being home alone at night. Hence, in this study these items are adapted to suit the needs of this study which is also based on the British Crime Survey (BSC) in 2006. Three items adapted to measure the need to feel safe are: (a) feeling secure when out at night, (b) feeling secure when walking alone in the neighborhood at night; and (c) feeling secure being home alone at night.

The POS dimension is measured using three indicators in a questionnaire. The measurement of POS is rated using a Likert scale ranging from 1 to 4 denoting ranges from "Very Safe" (1), "Safe" (2), "Less Safe" (3) and "Not Safe" (4). The validation of the POS construct is done by conducting a confirmatory factor analysis (CFA) using AMOS and SPSS software. CFA is a measurement model used to specify the relationship between factors and their respective indicators; and the relationship between indicator errors. The CFA method is able to ensure and validate the items used in measuring latent variables by taking into account the value of the variances. In CFA, several indices employed to judge whether the model tested fits to the data, such as Chi-square, Chi-square/degree of freedom ratio, and goodness of fit indices.

Results from the first measurement model of POS construct demonstrate that the three items are the fulfilment of needs indicator. The reliability test for POS construct indicated acceptable internal consistency (α= 0.91) with corrected item-total correlation for all variables higher than 3.0, (the accepted cut-off-value according to de Vaus, 2002) and the factor loading is higher than 0.3 (λ= 0.83 to 0.96) as shown in Table 1. The goodness-of-fit indices indicating 'just identified' (GFI=1.00, CFI=1.00, RMSEA= 0.59) shows that this model is accepted as the indicator for the POS construct.

Table 1. Result of first measurement model the perception of safety

POS construct	Items	Description of dimensions	Factor loading	Reliability
Perception of safety	Item 1	Whenever you are out at night, how far do you feel safe?	0.83	
	Item 2	How far do you feel safe if you are walking alone in the neighborhood at night?	0.96	0.91
	Item 3	How do you feel when you are home alone at night?	0.86	

3. Research methodology

3.1. Respondents

This study focuses on residential areas with statistically high burglary crime rates in Malaysia. Based on burglary crime rate reports from 2006 to 2007 in Malaysia, the states of Selangor and Wilayah Persekutuan Kuala Lumpur were shown as areas having high burglary crime rates as compared to 11 other states (PDRM, 2008). Therefore, Bandar Baru Bangi in Selangor is chosen as the study site for individual gated residential (IGR) area. Meanwhile for individual non-gated residential (INGR) area, Putrajaya is selected. This is due to the fact that the concept of individual non-gated residential design in Malaysia as at the date of this study is found in Putrajaya (Roslan Talib, 2009).

Putrajaya is the administrative center of the Malaysian Federal Government located due south of Kuala Lumpur city center (Putrajaya, 2009). Located strategically within the Multimedia Super Corridor (MSC), Putrajaya is considered as Malaysia's first Intelligent Garden City developed on 3,232.5 acres of land. It is a model city which is the heart of the nation and has gone on to become an attractive place to live and work in. The development of Putrajaya consists of 20 precincts with residential areas focused on Precinct 9 (44.60 percent), Precinct 11 (26.30 Percent) and Precinct 8 (14.90 percent) (Putrajaya, 2009). The other study area is Bandar Baru Bangi which is located near Putrajaya at a distance of approximately 15 kilometers (Putrajaya, 2009). Bandar Baru Bangi is based on the Garden City concept as a new township located in the District of Kajang under the jurisdiction of Kajang Municipal Council (MPKj) consisting of 9,298 hectares of development. Bandar Baru Bangi is known as a Satellite City and is the second largest city in Malaysia after Shah Alam.

The development of Bandar Baru Bangi consists of 16 Sections; of which 10 Sections are developed with residential areas. The study area in Bandar Baru Bangi consists of 201 dwelling units. Both areas (INGR and IGR) are located in predominantly housing areas with common basic shopping facilities.

3.2. Procedure

This study uses a structured questionnaire. Face to face structured and formal interviews were used to obtain the data. The settings of the interviews were the preselected residential areas in Presint 9 in Putrajaya and Seksyen 4 in Bandar Baru Bangi. The focus of this study involved groups of residents in a medium high level of income between RM3000 to RM5000 and categorized as able to afford the medium-high cost houses (JPBD, 2009; Putrajaya, 2009). The study employs the population survey approach on both areas (INGR and IGR). The IGR site in Bandar Baru Bangi involved 201 households while INGR in Putrajaya involved 275 households. The respondents comprise the main breadwinners in the households. A preliminary site survey was conducted first to identify unoccupied residences such as neighborhood watch beats, kindergartens, child-care centers, storage buildings and vacant residences. Out of 476 residences, 19 were eliminated from the respondent selection list as they were identified as having non- residential uses. This population study involved a total of 457 residences and 171 respondents.

In selecting the study sites, INGR area was selected first followed by IGR area. This is because INGR areas in Malaysia are very limited. Putrajaya was chosen as an INGR area because it is the first residential area in Malaysia to practice the non-gated concept in residential areas (Roslan Talib, 2009). Residential selection was based on on-site area criteria adapted from studies by Perkins et al. (1993) and Wilson-Doenges (2000) which are: having resided in the area for a minimum of 5 years; ethnic compositions are similar and; home ownership based on a residential lot size must also be similar. In addition, the layout of the neighborhood must be uniform, indicating that it is located within a proper neighborhood.

4. Results and discussions

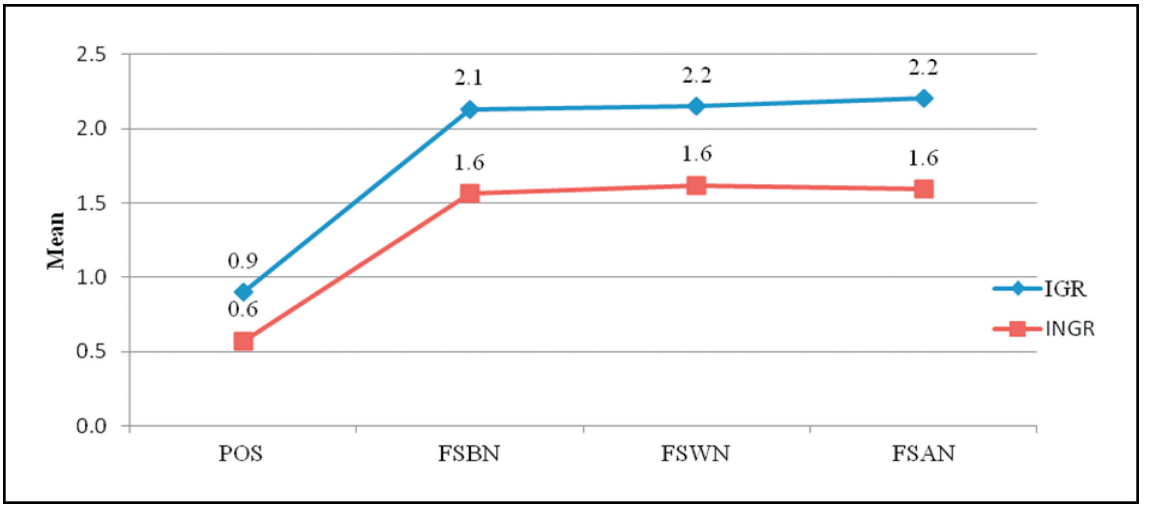
There were 171 respondents who participated in this study. 52.6% respondents who participated were in IGR area, and 47.4% participants were from INGR area. The result of gender profiling demonstrated that the number of male respondents (53.2%) was higher compared to female respondents (46.8%) participating in this study. Findings of independent sample t-test analysis on POS demographics indicated that residential ownership ($t(169)= 3.39$, $p=0.00$) and victimization ($t(20.75)= -3.24$, $p=0.00$) have significant differences with POS. The results explained that respondents who have experienced being crime victims have a higher need to feel safe compared to respondents who have never been a victim of crime. Conversely, house owners have higher feeling of security compared to house tenants.

Results of analysis using One-Way ANOVA on demographics found a significant difference between income rate ($F(4,166)= 3.90$, $p<0.05$), employment ($F(3,167)= 4.22$, $p<0.05$) and period of residing in the residential area ($F(4,166)= 5.81$, $p<0.05$); with POS. These findings explained that the higher the respondent's income rate, the higher his need to feel safe. This is perceived to be related to the high income-earning residents' lifestyle. Hipp (2010) suggests that lifestyle is one of the factors influencing the need to feel safe and their perception towards crime. Interestingly, self-employed residents were found to have higher need to feel safe as compared to respondents working in the private and public sectors and pensioners. This higher need to feel safe among self-employed respondents is believed to be related to fear of crime. This is further related with the daily activities theory which states that one's daily activities may affect an individual's behavior. In this study, it is believed to be related to fear of crime which perceives that there is a probability of an individual himself being a victim of crime (Hipp, 2010).

Meanwhile, the longer a respondent resides in a residential area was found to have a higher need to feel safe. This is perceived to be related to increased knowledge of their neighborhood's environment. This clarified by Villarreal and Silva (2006) where a longer period of residing in a residential area will

allow residents the ability to glean the relationship between their neighborhood environment and acts of crime.

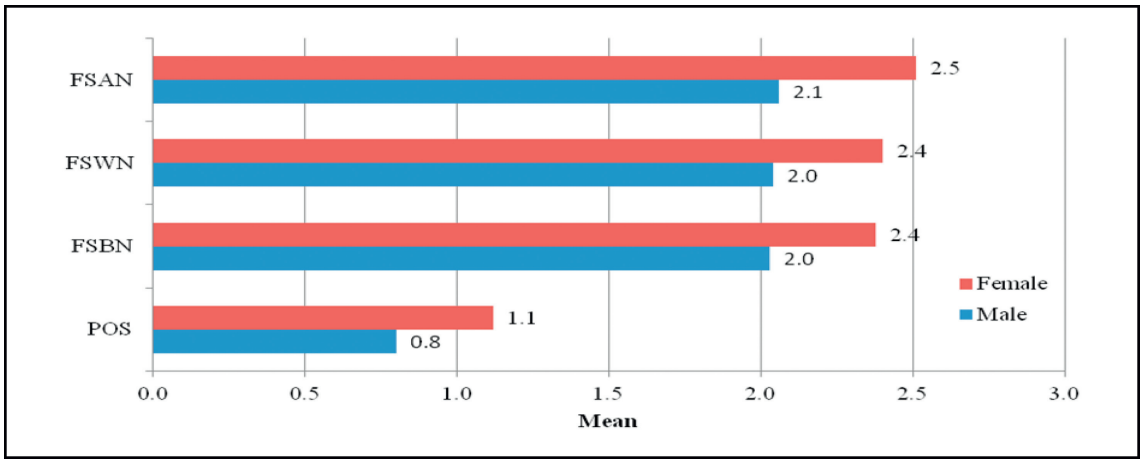
As mentioned earlier, the objective of this paper is to examine the Perception of Safety (POS) in two types of residential areas based on the gated element. Thus, the findings from independent samples t-test ($t(169)= -7.32$; $p<0.05$) are significant. These findings clearly show that respondents residing in IGR area have a higher need to feel safe than respondents residing in INGR area. Results show higher POS mean score (IGR: M=0.90, INGR: M=0.60) in IGR area. Besides, all POS items mean score namely FSBN (IGR: M=2.13; INGR: M= 1.60), FSWN (IGR: M=2.20, INGR: M= 1.60) and FSAN (IGR: M=2.20, INGR: M= 1.60) are also higher on individual gated residential type (IGR) (Refer Fig. 1).



Note: IGR=individual gated residences, INGR= individual non-gated residences, POS= perception of safety, FSBN= feeling of safety being out at night, FSWN= feeling of safety walking at night, FSAN= feeling of safety being home alone at night

Fig. 1. Differences between perception of safety at individual gated residential areas and non-gated residential areas with their dimensions

Gender and period of residing in a residential area also found to be significant in IGR but insignificant in INGR. The finding confirmed that women have a higher need to feel safe as compared to men. This based on the female gender's perception of safety (POS) mean score of (M=1.12) is higher as compared to the male gender's (M=0.80). POS items mean score that is feeling of safety being out at night (FSBN) (Female M=2.38, Male: M=2.03) feeling of safety walking at night (FSWN) (Female: M=2.40, Male: M=2.04) and feeling of safety being home alone at night (FSAN) (Female: M=2.51, Male: M=2.06) were all higher for the female gender as compared to the male gender (Refer Fig. 2).



Note: POS= perception of safety, FSBN= feeling of safety being out at night, FSWN= feeling of safety walking at night, FSAN= feeling of safety being home alone at night

Fig. 2. Differences between gender and perception of safety with their dimensions

On the other hand, findings of the One-way ANOVA analysis indicated that period of residing in a residential area IGR ($F(4,85)= 3.52$, $p<0.05$) was found to have a significant POS difference, but insignificant at INGR ($F(4,76)= 1.44$, $p>0.05$). Findings show POS mean score with a period of residing in a residential area of less than 1 year (M=0.82), 1 to 2 years (M=1.40), 3 to 4 years (M= 0.73), 5 to 6 years (M=0.91), and more than 7 years (M= 0.89). These findings clearly show that respondents residing in a residential area for less than 2 years have a higher need to feel safe; and the longer a respondent lives in a residential area, the lower the need to feel safe.

5. Conclusion

The objective of this paper is to investigate the perception of safety (POS) at two types of residential areas namely individual gated residential areas (IGR) and individual non-gated residential areas (INGR). This study found that POS is higher at IGR as compared to that in INGR. This finding is perceived to have a relationship with community relations and fear of crime factors. Austin, Furr, & Spine (2002) elaborated that good community and neighborhood relations are able to improve feelings of safety and eliminate the opportunities for crime. Siti Rasidah et al.'s (2012) research found that higher community relations in individual gated residential areas motivate a reduction in fear of crime. Based on the scope of this study, this finding demonstrates that gated elements are not perceived to be critical physical elements in inducing a feeling of safety. As limitation of the present study, this suggests that the strength of this finding may depend on other factors behind the scope of this investigation such as neighborhood configuration and the degree of social interactions. A suggestion for future research is to study the relationship between perception of safety, social interaction and neighborhood configuration in different types of residential areas.

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